REMARKS

Amendment to Specification

The amendments relate to the deletion of "sulfur" in claims 1, 4, 13, 17, 28, 32, 37, and 41. The amendments are in response to the rejections under 35 U.S.C. § 102.

35 U.S.C. § 102

The present invention provides a solution to the problem of improving the catalytic properties of certain supported catalysts, in particular silver-containing catalysts with specific promoters (phosphorus, boron, fluorine, lithium, sodium, rubidium, Group IIA through Group VIII metals, and rare earth metals, as defined in claim 1). An improved catalyst performance (activity and/or selectivity in olefin epoxidation) was found by selecting a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes, and depositing the specific catalytically active components onto the carrier (cf. the present application at page 2, line 29 – page 3, line 2). Evidence for the advantages can be found in the working examples, cf. in particular Table II on page 19 and the explanation provided at page 20 of the present patent application.

The Examiner rejected claims 1, 4, 9-10, 13, 17, 22-28, 32, 37, 41, 46-49 under 35 U.S.C. § 102(b) as being anticipated by Thorsteinson et al. (U.S. Patent No. 5,187,140; "Thorsteinson", hereinafter).

Each of the claims rejected under 35 U.S.C. § 102(b) involves "a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes." In rejecting the claims under 35 U.S.C. § 102(b), the Examiner asserted in the Office Action that:

> Thorsteinson et al. does not specifically disclose that the carrier has a sodium solubilization rate of no greater than 5 ppmw/5 minutes. However, Thorsteinson et al. teaches a carrier "AJ" which is an alpha alumina carrier which is washed according to the following procedure: 30 minutes in boiling water, 6 times washed at 25 degrees C, each times 1000 cc carrier is washed with 1200 cc water, and dried at 300 degrees C (column 46, lines 5-11). The carrier has 51 ppm of leachable sodium impurities (column 46, lines 14-20). (...) Given the low concentration of leachable sodium, it is considered that the treatment will inherently result in the solubilization rate that is instantly claimed. When the examiner has reason to believe that the functional language asserted to be critical for establishing novelty in claimed subject matter may in fact be an inherent characteristic of the prior art, the burden of proof is shifted to Applicants to prove that the subject matter shown in the prior art does not possess the characteristics relied upon.

Applicant respectfully submits that the Examiner has not satisfied the burden of proof required to maintain this rejection under 35 U.S.C. § 102(b). Before consideration of whether any burden of proof should be shifted onto Applicant, the initial burden of establishing a prima facie basis to deny patentability to a claimed invention rests upon the Examiner. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1463-64 (Bd. Pat. App. & Inter. 1990). Furthermore, "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Id.* at 1464 (emphasis in original). *See also In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999) ("To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'"). "The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient [to establish inherency.]" *In re Rijckaert*, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993) (emphasis in original); *see also In re Robertson*, 169 F.3d at 745, 49 U.S.P.Q.2d at 1951. Inherency may not be established by probabilities or possibilities. *In re Robertson*, 169 F.3d at 745, 49 U.S.P.Q.2d at 1951.

The Examiner's reasoning, quoted above in the block quote, does not reasonably support a determination that "a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes" necessarily flows from the teachings of Thorsteinson.

Applicant respectfully submits that –as shown in the subsequent paragraphs– the novelty of the present claims over Thorsteinson can be stated independent of whether or not Carrier AJ inherently meets the solubilization rate instantly claimed.

Thorsteinson teaches a process for the epoxidation of alkenes in the presence of a supported silver catalyst which has a high silver content, and the carrier has a high surface area and a high porosity (cf. col. 6, lines 24-33). The Examiner acknowledged that Thorsteinson does not specifically disclose that the carrier has a sodium solubilization rate of no greater than 5 ppmw/5 minutes, as quoted in the above quote block.

Thorsteinson teaches in col. 15, lines 20-30 that "[f]or the sake of repeatability, in the use and reuse of impregnation solutions the carrier should preferably not contain

undue amounts of ions which are soluble in the impregnation solution and/or exchangeable with the promoter supplied to the catalyst, either in the preparation or use of the catalyst, so as to upset the amount of promoter which provides the desired catalyst enhancement. If the carrier contains such ions, the ions should be generally removed by standard chemical techniques such as leaching, otherwise they must be taken into account during the catalyst preparation." Thus, according to Thorsteinson, if the impregnation solution is used and reused the presence of certain ions may upset the amount of promoter in the impregnation solution, and in such a case there is a choice of removing such ions or taking them into account during the catalyst preparation. In col. 15, lines 20-30, Thorsteinson does not mention specific ions and, in particular, Thorsteinson is silent with respect to sodium ions.

Thorsteinson's Carrier "AJ" is a water washed carrier having certain contents of impurities of fluoride, phosphate, aluminum, calcium, potassium, magnesium, sodium and silicon (column 46, lines 5-19). Carrier AJ was used in Thorsteinson's Examples 108-116 (columns 55-56, Tables 31-33). In each impregnation in these examples (including the two-stage impregnations of Examples 111-116) a fresh impregnation solution was prepared and used. There is no example in Thorsteinson in which an impregnation solution was used and reused, as an illustration of the teaching of Thorsteinson's column 15, lines 20-30. Also, there is no apparent connection between the cesium sulfate promoter used in Examples 108-116 and any of the stated impurities of Carrier AJ. Thorsteinson does not teach a reason why one would water-wash a carrier when there is no intention to use and reuse an impregnation solution, and in many of Thorsteinson's Examples unwashed carriers were used which have vast amounts of impurities, apparently without taking them into account during the catalyst preparation. Thus, there is absolutely no link between the generic disclosures of Thorsteinson in column 15, lines 20-30, and any of the Examples, in particular the aspect of the water-washing yielding Carrier AJ and the stated impurities of Carrier AJ.

Thus, <u>independent of whether or not Carrier AJ inherently meets the solubilization rate instantly claimed</u>, in the generic disclosures of Thorsteinson there is no suggestion or teaching of using a carrier having a sodium solubilization rate of no greater than 5 ppmw/5 minutes for making a silver containing catalyst comprising one or more promoters selected from phosphorus, boron, fluorine, lithium, sodium,

rubidium, Group IIA through Group VIII metals, rare earth metals, and combinations thereof.

As indicated above, the Examples of Thorsteinson in which Carrier AJ was employed are Examples 108-116 only. Examples 108-116 mention cesium sulfate as the single promoter, and these examples are silent with respect to promoters selected from phosphorus, boron, fluorine, lithium, sodium, rubidium, Group IIA through Group VIII metals, and rare earth metals.

Thus, independent of whether or not Carrier AJ inherently meets the solubilization rate instantly claimed, in the Examples of Thorsteinson there is no suggestion or teaching of using a carrier having a sodium solubilization rate of no greater than 5 ppmw/5 minutes for making a silver containing catalyst comprising one or more promoters selected from phosphorus, boron, fluorine, lithium, sodium, rubidium, Group IIA through Group VIII metals, rare earth metals, and combinations thereof.

Thus, independent of whether or not Carrier AJ inherently meets the solubilization rate instantly claimed, in the entire disclosure of Thorsteinson there is no suggestion or teaching of using a carrier having a sodium solubilization rate of no greater than 5 ppmw/5 minutes for making a silver containing catalyst comprising one or more promoters selected from phosphorus, boron, fluorine, lithium, sodium, rubidium, Group IIA through Group VIII metals, rare earth metals, and combinations thereof, as recited in the present claims. This means that the claims are novel over Thorsteinson.

The Examiner has submitted that "[a]s each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Thorsteinson et al.". As it has been set out above, independent of whether or not Carrier AJ inherently meets the solubilization rate instantly claimed, Thorsteinson fails to disclose, teach or suggest the element of the combination of using a carrier having a sodium solubilization rate of no greater than 5 ppmw/5 minutes and using one or more promoters selected from phosphorus, boron, fluorine, lithium, sodium, rubidium, Group IIA through Group VIII metals, and rare earth metals. For the purpose of 35 U.S.C. § 102, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631) It is respectfully submitted that this

combination has been made for the very first time in the context of the present invention, and that this combination is an explicit element of the wording of the claims now under consideration. Applicant is pleased to understand from the Office Action, page 6, first full paragraph, that the Examiner acknowledges the existence of a difference between the reference, i.e. Thorsteinson, and the subject matter as currently claimed in claim 1.

Applicant respectfully requests that the Examiner reconsider the present rejections in the light of the claims as presently amended.

35 U.S.C. § 103

3. The Examiner rejected claims 1-5, 8-10, 13-18, 21-33, 36-42, and 45-49 under 35 U.S.C. § 103(a) as being unpatentable over Thorsteinson.

The Examiner stated "the reference discloses that cesium sulfate exemplified in combination with carrier AJ to be functionally equivalent to the promoters and combinations required by the instant claims. It would be obvious to one having ordinary skill in the art at the time the invention was made to have substituted the ce[s]ium sulfate support on carrier AJ with any other, functionally equivalent promoters taught by the reference, with a reasonable expectation of success".

According the Manual of Patent Examining Procedure, 9th Edition, paragraph 2141.02, "[a]scertaining the differences between the prior art and the claims requires [...] considering both the invention and the prior art references as a whole", and also "[o]bviousness cannot be predicated on what is not known at the time an invention is made, even if the inherency of a certain feature is later established. *In re Rijckaert*, 9 F.2d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993". It is respectfully submitted that, on the one hand, the Examiners' statement is not based on a consideration of both the invention and the reference as a whole, and, on the other hand, it is in part based on what is not known at the time the invention was made. These submissions will be clarified in the following paragraphs.

As set out hereinbefore, the invention as claimed is based on the finding that an improved catalyst performance can be achieved by selecting a carrier which has a sodium solubilization rate of no greater than 5 ppmw/5 minutes and depositing the specific catalytically active components onto the carrier as specified in the claims. The Examiner has not considered the invention as a whole, in that he did not consider the feature of selecting a carrier which has a sodium solubilization rate of no greater than

5 ppmw/5 minutes. The Examiner did also not consider the technical effects (advantages) of selecting such a carrier vis-à-vis selecting a carrier which does not meet the required sodium solubilization rate.

When considering Thorsteinson as a whole, it becomes apparent that Thorsteinson does not give the skilled person any motivation to select the washed carrier AJ from the large number of carriers which have been disclosed by Thorsteinson, because if the impregnation solution is used and reused there is a choice of removing such ions or taking them into account during the catalyst preparation (cf. column 15, lines 20-30). Also, there is no such motivation because the preparation of Carrier AJ requires elaborate washing and drying, as disclosed in column 46, lines 7-11, which other carriers do not require. Further, nowhere in Thorsteinson there is a statement suggesting that selecting the washed carrier AJ from the large number of carriers disclosed would lead to an improved catalyst performance.

The Examiner denied non-obviousness of the invention as claimed by stating that "it would have been obvious [...] to have substituted the ce[s]ium sulfate supported on carrier AJ with any other, functionally equivalent promoters taught by the reference, with a reasonable expectation of success" (page 7, first paragraph). The Examiner presupposed that carrier AJ has a sodium solubilization rate of no greater than 5 ppmw/5 minutes. As acknowledged by the Examiner, Thorsteinson does not disclose that the carrier AJ has a sodium solubilization rate of no greater than 5 ppmw/5 minutes. As indicated hereinbefore, "[o]bviousness cannot be predicated on what is not known at the time an invention is made, even if the inherency of a feature is later established."

Thorsteinson teaches silver epoxidation catalysts having an enhanced activity and/or stability. There are provided silver epoxidation catalysts in which advantages of high silver content can be realized by combining a high silver content with a high surface area, high porosity carrier (column 6, lines 24-33). Thorsteinson is completely silent on the sodium solubilization rate of the carriers disclosed. Thorsteinson does not suggest or teach that an improved catalyst performance can be achieved by selecting a carrier which has a sodium solubilization rate of no greater than 5 ppmw/5 minutes and depositing the specific catalytically active components onto the carrier. Even, there is no statement in Thorsteinson suggesting that an improved catalyst performance can be achieved by selecting carrier AJ (which the Examiner believes to meet the sodium

solubilization rate requirement) and depositing specific the catalytically active components onto carrier AJ.

Thus, it not only appears that the Examiner's rejections of the claims on the basis of obviousness over Thorsteinson are not well based, there are clear indications that the claims are unobvious and patentable over Thorsteinson.

Applicant respectfully requests that the Examiner reconsider the present rejections in the light of the claims as presently amended.

4. The Examiner rejected claims 6-7, 19-20, 34-35, and 43-44 under 35 U.S.C. § 103(a) as being unpatentable over Thorsteinson, as applied to claims 1-5, 8-10, 13-18, 21-33, 36-42, and 45-49, in further view of Matusz (U.S. Patent No. 5,739,075).

Applicant's considerations relating to Thorsteinson, as presented above, are also relied upon in traversing the present rejections.

Matusz teaches the preparation of improved supported silver catalysts for the epoxidation of olefins, by pre-doping, pre-treating or pre-impregnating the carrier with a salt of a rare earth metal and a salt of an alkaline earth metal and/or a Group VIII transition metal. Any of a large number of carriers or support materials may be used, for example alpha-alumina (cf. col. 2, lines 12-36; col. 4, lines 10-32; col. 15, lines 42-45).

Each of the presently rejected claims involves "sodium solubilization rates." Matusz, like Thorsteinson (as discussed above), is silent with respect to sodium solubilization rates and any effect which they have on the performance of a catalyst in an epoxidation process. It follows that any combination of Thorsteinson and Matusz could not teach or suggest the sodium solubilization rates involved in claims 6-7, 19-20, 34-35, and 43-44. Modifying the invention of Thorsteinson by including additional promoters taught by Matusz does not provide the invention as presently claimed. Therefore, the claims are unobvious and patentable over Thorsteinson in further view of Matusz.

Applicant respectfully requests that the Examiner reconsider the present rejections in the light of the claims as presently amended.

5. The Examiner rejected claims 1-6, 9-19, 22-34, 37-43, and 46-49 under 35 U.S.C. § 103(a) as being unpatentable over Finch et al. (U.S. Patent No. 2,424,083, "Finch" hereinafter) in view of Notermann et al. (U.S. Patent No. 4,994,587, "Notermann" hereinafter).

Each of these claims involves "a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes." In rejecting these claims, the Examiner asserted in the Office Action that:

> Finch et al. does not disclose that the support is treated such that the sodium solubilization rate is no greater than 5 ppmw per 5 minutes.
> Notermann et al. (US 4,994,587) discloses a catalytic system for epoxidation of alkenes. The catalyst comprises silver on a solid support (column 11, lines 55-60). The support has less than about 50 and most frequently less than about 20 ppm of leachable sodium (column 11, lines 60-63). A preferred support material is alpha alumina (column 13, lines 1-2).
> Notermann et al. teaches that improved results are obtained by using a support wherein the support contains low levels of leachable sodium (column 13, lines 28-35). Notermann et al. teaches that the presence of leachable sodium exhibits deactivating and effective life-shortening effects on the catalytic system (column 11, lines 18-25). The low sodium support can be prepared by any methods suitable for removing sodium from a solid (column 13, lines 40-45). Typically the techniques involve extraction and/or volatilization of the sodium present (column 13, lines 50-68). Prepared supports have BET surface areas of 1.56 m^2/g (column 23, Example 1).
> Notermann et al. does not specifically disclose that the sodium solubilization rate of the carrier is no greater than 5 ppmw/5 minutes. However, it is considered that because Notermann et al. teaches removing leachable sodium from the carrier material, the resulting material will have the solubilization rate instantly claimed.

The Examiner's rejection is based upon an assertion by the Examiner that Notermann inherently discloses "a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes." However, as discussed previously, to satisfy the Examiner's burden of proof, "the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990); *see also In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999).

The Examiner's reasoning, quoted above in the block quote, does not reasonably support a determination that "a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes" necessarily flows from the teachings of Notermann. Without more, a teaching of sodium removal and levels of leachable sodium, which the Examiner asserts are present in Notermann, provide insufficient basis for any determinations or estimations concerning whether a sodium solubilization rate is no greater than 5 ppmw/5 minutes. At best, the Examiner has proposed a mere possibility of what Notermann may inherently contain. For example, while the carrier as treated in Example 1 of Notermann by heating with NH_4F may have a relatively low sodium

content, the carrier could possibly still have a relatively high sodium solubilization rate when contacted with water. Thus the Examiner has not satisfied the burden of proof required to maintain this rejection based on a theory of inherent disclosure. In addition, nowhere does Notermann teach or suggest selecting a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes and subsequently using the carrier for making a catalyst comprising silver and promoters selected from phosphorus, boron, fluorine, lithium, sodium, rubidium, Group IIA through Group VIII metals, rare earth metals, and combinations thereof.

As acknowledged by the Examiner, "Finch et al. does not disclose that the support is treated such that the sodium solubilization rate is no greater than 5 ppmw per minutes" and "Notermann et al. does not specifically disclose that the sodium solubilization rate of the carrier is no greater than 5 ppmw/5 minutes." Because each of the presently rejected claims involves "a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes," any combination of Finch with Notermann could not teach or suggest claims 1-6, 9-19, 22-34, 37-43, and 46-49. As indicated hereinbefore, "[o]bviousness cannot be predicated on what is not known at the time an invention is made, even if the inherency of a feature is later established."

In the Office action the Examiner submitted that "[i]t would have been obvious [...] to substitute the carrier taught by Finch with the carrier taught by Notermann [...] in the light of the suggestion of Notermann that the use of low sodium alumina carrier will obtain a catalyst with improved properties and avoid deleterious effect of leachable sodium. Since both catalysts can be used to convert ethylene to ethylene oxide, one would have reasonable expectation of success from the combination." (cf. page 10, first full paragraph; Notermann, column 13, lines 28-35). However, it is respectfully submitted that the Examiner has based the rejections on a selective consideration of only portions of Notermann. According to the Manual of Patent Examining Procedure, 9th Edition, paragraph 2141.03, "[a] prior art reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention" (emphasis added).

Applicant respectfully submits that the Examiner's citation of Notermann's column 13, lines 28-35 has to be read in conjunction with Notermann's passage in column 11, lines 19-47, which teaches that different instances lead to different effects of leachable sodium, namely: "The presence of leachable sodium [...] tends, in some

instances, to improve the efficiency of the system under epoxidation conditions generally used. In the presence of CO_2 and certain efficiency enhancing compounds, however, sodium exhibits deactivating and effective life-shortening effects on epoxidation catalysts and systems. [...] The catalyst and process of [Notermann's] invention diminish the deactivating and life-shortening effects of CO_2 [when present in combination with sodium sodium]" (emphasis added).

Thus, on the one hand, Notermann contains the general teaching that the presence of leachable sodium improves the efficiency under epoxidation conditions generally used, and, on the other hand, Notermann contains the specific teaching only applicable to cases of deactivating and life-shortening effects of having the combination sodium in the catalyst and CO_2 in the feedstream, in which it is advantageous to use Notermann's invention, i.e. to use a carrier with a low content of leachable sodium.

Finch teaches that "[t]he activity of the catalysts may, in many instances, be further materially increased or promoted by the addition of small amounts of a sodium compound" (cf. column 4, lines 44-47). Finch is completely silent about CO_2, as such, let alone any deactivating and life-shortening effects associated with having CO_2.

Applicant respectfully submits that if the skilled person would have a reason to consult Notermann in relation to Finch's disclosures, in the absence of any reference in Finch to (effects of) CO_2, he would have motivation only to follow Notermann's general teaching that the presence of leachable sodium tends to improve the efficiency of the system". It is emphasized that this general teaching is consistent with the teaching by Finch that the activity of the catalysts may, in many instances, be further materially increased or promoted by the addition of small amounts of a sodium compound" (column 4, lines 44-47). Thus, the skilled person is discouraged from applying a carrier with a low content of leachable sodium, let alone a carrier with a low sodium solubilization rate, e.g. no greater than 5 ppmw/5 minutes. This clearly leads away from the present invention.

In the absence of any reference in Finch to (effects of) CO_2, the skilled person would not find any motivation to apply Notermann's specific teaching which aims at diminishing deactivating and life-shortening effects of associated with CO_2 by using a carrier with a low content of leachable sodium. Preparing such carriers would also require elaborate procedures such as set out in Notermann's column 13, line 41 - column 14, line 65. As an addition, even if the skilled person would find motivation to

apply a carrier with a low content of leachable sodium, then still he would not necessarily arrive at using a carrier with a low sodium solubilization rate, e.g. no greater than 5 ppmw/5 minutes.

In view of Examiner's comments in the paragraph bridging pages 12 and 13 of the Office Action, Applicant wishes to make additional observations:

Firstly, the passage in Notermann, column 11, lines 18-47, may at least in part be a description of the background art, although no reference has been provided. The background art described here relates to the effects of having sodium and CO_2. The background art described here is relevant to Notermann's invention, and may be combined therewith, because the relation with Notermann's invention is clearly indicated in column 11, lines 45-47: "The catalyst [based on a low leachable sodium carrier] and process of the present invention diminish the [...] effects of CO_2".

Secondly, Notermann, same column 11, lines 18-47, teaches that "[i]n many commercially used epoxidation reactors [...] the effluent stream always contains some carbon dioxide. In a reactor in which the effluent stream is recycled to the reactor, therefore, the feedstream always contains some carbon dioxide." Notermann goes on to explain that "[c]ommonly, the carbon dioxide is removed by a scrubbing device [...] placed in the effluent stream between the effluent outlet and the reactor outlet." Therefore, the distinction made by Notermann is between, on the one hand, processes in which the feedstream contains CO_2 and, on the other hand, processes in which the feedstream does not contain (significant quantities of) CO_2 (in the latter case, either there is no recycle of effluent, or CO_2 has been removed from the effluent stream prior to recycling to the feedstream). Notermann can make this distinction, despite the fact that at least some CO_2 is produced in any epoxidation process (cf. also Notermann, column 1, lines 30-41). It is clear from Notermann's passage in column 11 that the wording "in the presence of CO_2" should be read as meaning that the feedstream contains CO_2 (compare the sentence of column 11, lines 21-24, with the sentence of column 11, lines 35-40).

In view of the above, it is respectfully submitted that the rejections, based on Finch and Notermann, are <u>not</u> based on a proper consideration of Notermann, and that <u>a proper consideration of Notermann in its entirety leads to the conclusion that Notermann leads away from the present invention</u>.

Thus, claims 1-6, 9-19, 22-34, 37-43, and 46-49 are unobvious and patentable over Finch in view of Notermann. The non-obviousness of the present claims over Finch and Notermann can be stated independent of whether or not Notermann's carrier inherently meets the solubilization rate instantly claimed.

Applicant respectfully requests that the Examiner reconsider the present rejections in the light of the claims as presently amended.

6. The Examiner rejected claims 7-8, 20-21, 35-36, and 44-45 under 35 U.S.C. § 103(a) as being unpatentable over Finch et al. in view of Notermann et al. as applied to claims 1-6, 9-19, 22-34, 37-43, and 46-49, discussed above, and further in view of Matusz. In making the present rejection, the Examiner relied upon the modified disclosure of Finch et al., discussed above, as applied to claims 1-6, 9-19, 22-34, 37-43, and 46-49 to support the present rejection.

As shown above, the Examiner has not met the burden of proof necessary to support a theory of inherent disclosure by Notermann. Further, as shown above, Notermann and Finch cannot be properly combined in the manner proposed by the Examiner in the rejection of claims 1-6, 9-19, 22-34, 37-43, and 46-49 over these references. Thus reliance upon Finch in view of Notermann, as applied above by the Examiner to claims 1-6, 9-19, 22-34, 37-43, and 46-49, cannot properly support the rejections under 35 U.S.C. § 103 of claims 7-8, 20-21, 35-36, and 44-45.

As discussed previously, Finch, Notermann, and Matusz are all silent with respect to sodium solubilization rates. Because each of the presently rejected claims involves "a carrier having a sodium solubilization rate no greater than 5 ppmw/5 minutes," any combination of these cited references could not teach or suggest the subject matter of claims 7-8, 20-21, 35-36, and 44-45. Therefore, these claims are unobvious and patentable over the cited art.

Applicant respectfully requests that the Examiner reconsider the present rejections in the light of the claims as presently amended.

Each of the rejections having been traversed, allowance of the claims of the present application is respectfully requested. If the Examiner would like to discuss this case with Applicant's attorney, the Examiner is invited to contact Richard Lemuth at the phone number below.

Respectfully submitted,

JOHN ROBERT LOCKEMEYER

By: _____
His Attorney, Richard F. Lemuth
Registration No. 30,081
(713) 241-3716

P. O. Box 2463
Houston, TX 77252-2463